



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/564,226 | 05/31/2006 | Franz Thoemmes | 10191/4495 | 7534 |
| 26646 7590 09/29/2009 KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004 | | | | |
| EXAMINER BOECKMANN, JASON J | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 3752 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 09/29/2009 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/564,226

Applicant(s)

THOEMMES, FRANZ

Examiner

Jason J. Boeckmann

Art Unit

3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8, 10 and 14-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8, 10 and 14-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-089)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date _____
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/17/2009 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 8, 10 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Kobayshi et al. (US 2002/0185555).

Kobayshi et al. shows a fuel injector (1) comprising; a valve needle (26) an armature (7C) forming an axially movable valve port together with the valve needle (7A),

Art Unit: 3752

a restoring spring (9) acting upon the armature, a magnetic coil (11) cooperating with the armature, a valve-seat body (5), a valve closure member (7B) which forms a sealing seat with the valve seat body and; a valve sleeve (22) surrounding the armature and the valve needle, a wall thickness of the valve sleeve varying across its axial direction (fig 9 below), wherein the wall the wall thickness of the valve sleeve decreases in a discharge direction of a fuel (figure 9), wherein an outer diameter and a radial cross section of the valve sleeve decrease between an inflow-side region and a discharge-side region on a color (figure 9), wherein the radial cross section and the wall thickness of the inflow-side region are constant from the collar to a location axially beyond the valve needle in a direction opposite the discharge direction of the fuel (figure 9 below); wherein the decreased radial cross section and decreased wall thickness of the discharge-side region are constant form the collar to a discharge-side end of the valve sleeve (see examiners marked up figure below).

It is noted that the term "in order to limit noises emissions," of line 13, is being considered a functional limitation and is given little or no patentable weight in an apparatus claim.

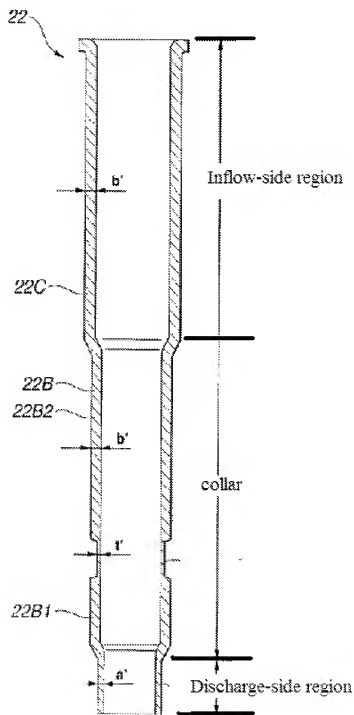
It is noted that the terms "having greater material strength" and "having lower material strength," of lines 17 and 18 are being construed to mean having a greater strength. The term "material strength" is commonly used in the art to be a specific property of a material, not a property of the shape of the material. According to the figures and the applicant's disclosure, it seems as if the applicant is using the term "material strength" to describe a property of the shape of the valve sleeve. This

Art Unit: 3752

acceptable because the applicant is allowed to be his own lexicographer, however, the examiner would like to make it clear on the record that the term difference in material strength claimed in lines 17 and 18, does not mean that a different material is being used for the different sections of the valve sleeve, but it is merely referring to the change of shape of the valve sleeve and how it affects the strength of the different sections of the valve sleeve.

Regarding claims 10 and 14, the wall thickness of the valve sleeve is about 0.5 mm in an inflow-side region and about 0.3 mm in a discharge-side region (paragraph 0067).

Art Unit: 3752



Examiners marked up figure 9

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayshi et al. (US 2002/0185555).in view of French et al. (6,382,532).

Kobayshi et al. shows all aspects of the applicant's invention as in the rejection of claim 8 above except for an intake pipe that extends beyond the valve sleeve to span an axial distance between the valve sleeve and a seal disposed in a region of central fuel supply, and a filter element that is pressed into the valve sleeve.

However, French et al. shows a fuel injector having a filter assembly that is pressed into a valve sleeve (14). The filter assembly including an intake pipe (70) that extends beyond the valve sleeve to span an axial distance between the valve sleeve and a seal (106) disposed in a region of central fuel supply, and a filter element (78) that is pressed into the valve sleeve between the electrical plug contact (86) and the discharge side region.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to add the filter assembly including the intake pipe (70), the seal (106) and the seal (106) and the filter element (78) to the fuel injector of Aoki et

al. and have it pressed into the valve sleeve. This modification would allow for the fuel entering the injector to be filtered, as taught by French et al.

Regarding claim 17, the fuel injector of Kobayshi et al. as modified by French et al. includes a filter (78) located between the electrical plug () and the discharge side region of the valve sleeve.

Regarding claim 18, the intake pipe of the fuel injector of Kobayshi et al. as modified by French et al. radically contacts the seal.

Response to Arguments

Applicant's arguments filed 8/17/2009 have been fully considered but they are not persuasive. Regarding the applicant's remarks concerning the Kobayshi et al. reference. Please see the modified 102 and 103 rejections above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason J. Boeckmann whose telephone number is (571)272-2708. The examiner can normally be reached on 8:00- 5:00, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571) 272-11841184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3752

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason J Boeckmann/
Examiner, Art Unit 3752
9/26/2009